

## REMARKS

Applicant requests favorable reconsideration and allowance of this application in view of the foregoing amendments and the following remarks.

Claims 1-44 are pending in this application, with Claims 1, 21, 41, 43, and 44 being independent.

Claims 43 and 44 stand withdrawn from consideration. Applicant hereby affirms the election of Claims 1-42 for prosecution on the merits.

Claims 1, 21, 41, and 42 have been amended. Applicant submits that support for the amendments can be found in the original disclosure, and therefore no new matter has been added.

Claim 42 has been objected to because it depends on Claim 1. The Examiner suggests that Claim 42 ought to depend on Claim 41 since Claim 41 disclosed a computer readable memory medium. Claim 42 has been amended as suggested by the Examiner, and Applicant requests withdrawal of this objection.

Claims 1-16, 18-36, and 38-42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,477,276 (Inoue et al.) in view of U.S. Patent No. 6,535,616 (Hayashi). Claims 17 and 37 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Inoue et al. in view of Hayashi as applied to Claims 1-16 and 18-36, and further in view of U.S. Patent No. 5,821,986 (Yuan et al.). Applicant respectfully traverses these rejections for the reasons discussed below.

As recited in independent Claim 1, the present invention includes, *inter alia*, the features of pseudo gradation process means for quantizing image areas divided by division means, and control means for controlling, in a unit of the image area, a quantization condition by the pseudo

gradation process means according to predetermined information to be embedded, to generate a pattern in which a dot arrangement is different according to the predetermined information on an image output as a print. Independent Claims 21 and 42 recite similar features.

According to these features, it is possible to embed the predetermined information so that it can be accurately extracted even if the image in which it is embedded is output as a print. More specifically, when the image is quantized in the pseudo gradation process, the quantization condition is controlled according to the predetermined information in a unit of the image area, and the pattern in which a dot arrangement is different according to the predetermined information is generated on the image output as a print. Thus, the embedded predetermined information can be accurately extracted from the printed image.

Applicant submits that the cited art fails to disclose or suggest at least the above-mentioned features. Inoue et al. discloses that predetermined information is embedded in a frequency band of an image. Specifically, the mean value  $M_x$  within a block is calculated, the linear quantization  $q$  is obtained from  $M_x$ , the value  $q \pm 1$  is obtained according to the information to be embedded, and the resulting information is embedded. However, that patent does not take into account that the image in which information is embedded is to be printed and does not disclose or suggest a pseudo gradation process for quantizing or controlling a quantization condition by the pseudo gradation process according to the predetermined information. As mentioned in the background of the current application, it is difficult to extract embedded information from a printed image because the amount of information change during a process for printing (e.g., a pseudo gradation process) is remarkably large. Since Inoue et al. does not take this into account and does not disclose or suggest at least the above-mentioned features,

Applicant submits that Inoue et al. would not output an image as a print from which embedded information could be accurately obtained.

The other cited art fails to remedy the deficiencies of Inoue et al. Therefore, even if considered in combination, the cited art would not render obvious the invention of Claims 1, 21, and 42.

The dependent claims are patentable for at least the same reasons as the independent claims, as well as for the additional features they recite.

In view of the foregoing, Applicant submits that this application is in condition for allowance. Favorable reconsideration, entry of this Amendment, withdrawal of the outstanding rejections, and an early Notice of Allowance are requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our below-listed address.

Respectfully submitted,



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